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# THE CASE FOR GREEN FOOD LABELS

by Emily Alves & Mark Edwards\*

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## INTRODUCTION

Presidential debates, headlines, and magazine covers demonstrate a dramatic rise in environmental consciousness, especially associated with global climate change, carbon emissions, oil independence, and human health. While global warming, the need to cap carbon emissions, and oil independence dominate the public arena, the food industry must also be scrutinized for its energy and carbon emissions. In the United States, food production consumes nineteen percent of our energy and contributes thirty-seven percent of our carbon emissions.<sup>1</sup>

In the absence of a systematic strategy by the U.S. government, many consumers are searching for ways to make a positive environmental impact while, at the same time, improving their personal and family's food consumption and lifestyle. This trend, termed "green consumerism," leads people to purchase products with limited or positive environmental impacts, especially foods that have been produced in an environmentally sensitive manner. Green consumerism has led to a very lucrative industry,<sup>2</sup> which is indicative of the appeal of green credentials to consumers. Companies embracing green consumerism advertise their products' benefits through eco-labels which are "label[s] placed on a product to inform consumers that the product is less environmentally harmful than similar products."<sup>3</sup>

The green food industry is currently devoid of any meaningful system of making or verifying these claims, which creates several problems. Many claims may be intentionally or accidentally misleading as to their actual environmental benefits.<sup>4</sup> Without any standards set to define what certain environmental terms mean, the use of this terminology can either render a consumer clueless or simply confused over the true impact of their purchases. Many label claims address only one environmental issue, which may or may not be relevant. A label of organic indicates that a product was probably made from an entirely natural process (although the organic claim can be misleading<sup>5</sup>), but ignores other important information contributing to the environmental impact of a food product such as the amount of energy, water, and land used in production and the resulting carbon emissions. This kind of single attribute labeling is not an ideal method for green consumers who are concerned with the broader state of the environment, not solitary issues, and would like to utilize more comprehensive information. A uniform, comprehensive system of environmental labeling for food production is needed to inform green consumers

Developing and implementing a comprehensive and comprehensible information labeling system will achieve the dual purpose of increasing consumer satisfaction and meaningful environmental progress. While this appears to be a daunting task considering all the criteria that would need to be evaluated, it

could be accomplished in a manner that is easy for consumers to use to make informed, environmentally conscious decisions. A useful example that eco-labels could emulate is already in place: nutrition labels on food have been a regular aspect of food packaging for over a decade.<sup>6</sup> Nutrition labels have been successful primarily because they take information about the ingredients and nutritional value of a food and disseminate it in a consistent, user-friendly manner that enable consumers to decide which foods offer the best dietary choice.<sup>7</sup> Experience with food labels should provide the foundation for the development of environmental information labels.

Another method to pursue could be integrating eco-information into the current nutrition labeling system instead of developing an entirely separate enterprise. This path would, perhaps, be the most comprehensive because nutrition labels and potential environmental labels share a common purpose—to improve human health. Information relevant to the environmental footprint of a food product—disclosure of pesticides and other chemicals used on the product, the amount of energy used for the entire production process, the effects of the manufacturing process on natural resources such as air and water quality—are equally relevant to maintenance of human health. Given their common purpose and audience, combining the two information systems may be the more efficient, successful system to achieve both goals of improving the environment and human health.

This article will discuss why food labels should be expanded to include important environmental information about products to allow consumers to make educated decisions regarding their impact on both human and environmental health. The first section of this article examines the history and demand for green product information. A discussion of the development and lessons from nutrition labels follows, and includes an overview of potential legal questions that may arise from eco-labeling. Lastly, the article proposes recommendations for a path forward on eco-labeling.

## GREEN CONSUMERISM

There is a well-documented demand for green products.<sup>8</sup> A surge in green products produced for a growing demographic of environmentally conscious consumers began in the 1990s and continues to this day with a wide variety of green promotions.<sup>9</sup> Consumers seek green products for many reasons, motivating marketers to create vigorous product campaigns promoting eco-

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friendliness.<sup>10</sup> In response to these diverse motivations and broad spectrum of products, an enormous range of labels exists currently in stores, from prominent displays of government certified organic to third-party certification to a company's own stamp of environmental approval. This confluence of often competing claims does little to actually achieve the goals of eco-consumers.<sup>11</sup>

#### INDEPENDENT LABELS

Two types of labels have emerged that do not require government regulation. One is awarded by an independent third-party certifier that grants products permission to use their logo indicating their approval of environmental credibility.<sup>12</sup> An example of this is the well-known "Fair Trade" line of products. The appearance of a Fair Trade logo on coffee, tea, or other product indicates that it was made by a farmer who will not only receive a fair wage for their work, but also did not use any genetically modified organisms ("GMO") or agrochemicals in the process.<sup>13</sup> A second type of green labeling not regulated by the government is done by companies themselves. A company may choose to label a food as "natural" with no indication of the company's definition of the word.<sup>14</sup>

There are numerous problems with allowing these practices. The lack of transparency and sheer volume of claims do not soundly educate the consumer.<sup>15</sup> There is no easy manner for a consumer to differentiate between credible and less than credible claims.<sup>16</sup> Terms such as "natural," "environmentally friendly," and "green" are vague and non-definitional and do not indicate what environmental benefit the product offers.<sup>17</sup> Without more specific terminology and explanations, there's no way for the consumer to determine what specifically about the product will help them be eco-friendly,<sup>18</sup> be it reducing their carbon footprint or protecting a certain animal species. These labels frequently address only one issue and ignore other critical eco-attributes. For example, a "bird friendly" label does not give any insight into the carbon footprint of producing the product, and a stamp of "carbon neutral" does not indicate what, if any, pesticides were used on the product. Likewise, a "natural" label with no indication of the word's definition, gives the consumer essentially no valuable information. This convoluted system does little to assist consumers seeking to have the greatest impact on overall environmental health.

#### STATE, FEDERAL, AND INTERNATIONAL STATUTES AND GUIDELINES

Governments at all levels have engaged in sorting through the environmental claims of products, particularly for the food industry. The federal government has a variety of programs and labeling schemes to benefit the environmentally conscious consumer. The most well known is the U.S. Department of Agriculture ("USDA") organic certified labels program, effective since 1990.<sup>19</sup> This program came to fruition as a result of the growing demand for chemical-free foods and the stunting of that market's expansion due to a hodgepodge of state regulations.<sup>20</sup> Originally a primarily small-farm technique, large industrial farms came to dominate the organic market and demanded federal regulation to enhance their growth.<sup>21</sup> Therein lies one of several problems

with this certification program. Large scale farmers drove the stakeholder process of creating the food labels, tilting the definitions in their favor.<sup>22</sup> For the consumer purchasing organic products because of their desire to support small, natural farm practices, the USDA organic label can be misleading.<sup>23</sup> Additionally, a lax and underfunded inspection process cannot completely guarantee that all organically labeled products are free of synthetic fertilizers or agricultural chemicals.<sup>24</sup> More recent federal labeling schemes include labels issued to differentiate between livestock that had been raised on a purely grass-fed diet<sup>25</sup> and requirements for labels regarding the country of origin of certain food products.<sup>26</sup>

The Federal Trade Commission ("FTC") is also engaged in disseminating production information and issued guidelines in 1992 for proper green advertising of products.<sup>27</sup> While not labels *per se*, these guidelines do represent "a framework for voluntary compliance with standards for environmental marketing."<sup>28</sup> However, these are merely guidelines and do not have the force of law behind them, and thus are somewhat meaningless.<sup>29</sup> What's more, the FTC does not have the scientific expertise of the issues that are present at other agencies such as the Environmental Protection Agency ("EPA"), making the well-intentioned guidelines considerably less effective than they could be.<sup>30</sup>

The states got an early lead in regulating environmental marketing of products. After a mid-1990s "Green Report" by ten state Attorneys General about rampant abuses in the green marketing industry regarding claims of the environmental credentials,<sup>31</sup> several states passed statutes with stipulations defining what standards products must meet in order to advertise their environmentally friendly status. The most publicized of these was a statute in California that regulated the use of the terms "ozone friendly," "biodegradable," "photodegradable," "recycled," and "recyclable."<sup>32</sup> In addition, Indiana and Rhode Island passed similar definitional statutes regulating environmental marketing.<sup>33</sup> New York, Connecticut, and New Hampshire have enacted statutes promoting logos to advertise environmental attributes, and Maine has codified the FTC guidelines.<sup>34</sup> What is problematic about this patchwork approach is that it can be confusing and stifling to manufacturers, who may decide not to sell their products as expansively to avoid having to meet such a variety of criteria.<sup>35</sup> This denies opportunities to consumers to choose from a wider array of products.<sup>36</sup>

Eco-food labels are gaining prominence on the international regulatory scene.<sup>37</sup> Perhaps due to the high-profile issue of reducing carbon emissions, the most publicized labeling scheme in recent years has been UK-based supermarket Tesco's decision to begin listing the carbon footprint on approximately seventy thousand of its products in-store.<sup>38</sup> This will allow consumers the opportunity to reduce these harmful emissions.<sup>39</sup> Japan recently announced plans to begin its own carbon labeling scheme in the next few years, and several EU countries are exploring carbon labeling options as well.<sup>40</sup> This trend further supports the proposition that comprehensive action is needed to label products at the U.S. federal level, not only for domestic consumers but also for trade reasons.<sup>41</sup>

## THE EXPERIENCE WITH NUTRITION LABELS

Assessing the development and execution of nutrition labels is a useful prototype for implementing a green foods labeling system because it has, by and large, been successful. An examination is also inevitable if only for the fact that both would have to co-exist on food packaging.

Although food regulation existed much earlier, the first food labels were established in 1907 to distinguish between “suitable” food colors.<sup>42</sup> Nutrition labeling began gaining notoriety in the late 1980s out of concern over the American diet and the idea was codified in the Nutrition Labeling and Education Act (“NLEA”) of 1990.<sup>43</sup> Administered by the Food and Drug Administration (“FDA”) and the USDA Food Safety Inspection Service, the Act was intended to provide the American consumer with reliable and informative data regarding the content of their food purchases and hopefully encourage healthful nutrition decisions.<sup>44</sup> Mandatory labeling became effective in 1992,<sup>45</sup> with a re-examination of the guidelines every five years to ensure that they reflect the current knowledge and values in the American diet.<sup>46</sup> For example, following an increased awareness of trans-fats’ detriment to cardiovascular health, the labels were updated in 2006 to indicate whether a product includes the ingredient.<sup>47</sup> Today, nutrition labels are designed to carry the most essential nutritional value of a food product, listed in order to reflect the level of importance to a daily diet in an easy-to-read format.<sup>48</sup> Studies indicate that consumers view the labels favorably and often use them to base their decisions over purchases to improve their diets.<sup>49</sup>

The flexibility component in updating the labels every five years to reflect nutritional values would be a useful aspect to integrate into a potential eco-food label. New research indicating which environmental threats are more precarious than others is continuously published and changes would be made to reflect new realities in any potential scheme. Another positive attribute is the comprehensive, consistent dissemination of nutrition information. As demonstrated above, a severe handicap behind the current eco-labeling system is that there are no clear standards as to what certain terms mean, which can lead to consumer confusion over the veracity of the environmental claims.

## POTENTIAL LEGAL OBSTACLES

The major legal challenges to date against either nutrition or potential environmental labels regard the First Amendment implications of requiring food producers to display this information on their products. The two most prominent cases concerned allegations of violations of commercial free speech. In each case, the courts found that such a violation was not in play.

*Nutritional Health Alliance v. Shalala* addressed the question of the authority of the FDA to limit the health claims that may be made on dietary supplements under the NLEA.<sup>50</sup> The plaintiff contended that: (1) the NLEA imposed an impermissible ban on truthful, non-misleading constitutional speech, and (2) that the preauthorization scheme to label the products was an unconstitutional prior restraint on commercial speech.<sup>51</sup>

*Association of National Advertisers v. Lungren* involved the California statute discussed above that required compliance with state standards when advertising a product in environmentally friendly ways<sup>52</sup> such as declaring the product as ‘biodegradable’ or made of ‘recycled’ material. The plaintiff also alleged violations of commercial speech and non-speech.<sup>53</sup> In both cases the courts relied on a four-step test from *Central Hudson Gas & Electric Corp. v. Public Service Commission* to determine if the speech qualified as commercial, and could therefore be subject to regulation.<sup>54</sup> The test for determination considers the following factors:

- 1) Whether the speech is misleading or does not “concern lawful activity,” in which case no further inquiry is needed and the speech may be restricted;
- 2) Whether the government’s asserted interest in regulating the speech is substantial;
- 3) Whether the restraint directly advances the government’s interest; and
- 4) Whether the legislation is no more extensive than necessary to serve the government’s interest.<sup>55</sup>

In both cases, the courts found that the speech in question qualified as commercial and was subject to regulation under this test.<sup>56</sup> If *Shalala* and *Lungren* serve as indicators, it is likely that eco-food labels will be subject to the *Central Hudson* test described above. Given the similar First Amendment violations alleged in both cases, it is plausible that free speech implications may arise in the implementation of environmental food labeling. Food producers may argue that restricting their current unbridled use of environmental terms denies them free speech, and, simultaneously, that requiring them to provide certain information is unjustified regulation. Therefore, those tasked with drafting potential regulations must take care to remain within the confines of the *Hudson* test. While eco-labeling is clearly a vital government interest in line with *Hudson*’s second and third criteria, the parties involved will have to find a balance to ensure that the policies are carried out in a reasonable manner to be consistent with the last criterion.

First Amendment implications are not the only legal issues that will arise in the drafting process. Another potential legal concern could be over the roles of different agencies in implementing this system. Since green labels involve issues falling under at least two different agencies jurisdictions—for instance, the EPA monitors environmental issues while FDA regulates food—green food labeling would probably necessitate a jointly regulated process where the specific roles and jurisdiction of each agency may be called into question. Other legal issues that will probably arise and could face legal challenge include the metrics used for reporting, thresholds for agricultural chemical content, and even reporting formats.

## RECOMMENDATIONS

The following recommendations may serve as a foundation for implementing a labeling system that would indicate the environmental content of a food product and its production process.



## NEW OR EXPANDED LABEL?

It must be decided whether to simply expand nutrition labels to include environmental information or to have a separate label. Several factors favor expanding the existing nutrition label. Because nutrition labels are easy to read and valuable,<sup>57</sup> including the environmental information of a food would instantly reach that same level of credibility and wide audience. The necessity of involving the FDA in this regulation invokes a need for efficacy in regulating both labels. It would be easier for the FDA to continue evaluating only one, comprehensive label.

The overlap in aspirations behind green food labels and nutrition labels make integration of the two a natural fit. Both sets of data strive to inform consumers about the best food available for their health. In fact, it could be argued that in neglecting to list environmental considerations on the current nutrition labels, the information provided is severely lacking a vital component to the consumer's health and well-being. Knowing how one's food is produced and its potential contents resulting from production allow consumers to make important health-related purchasing decisions. Therefore, including the environmental impact and make-up of a food on nutrition labels would simultaneously assist the consumer in improving their health, well-being, and the environment.

However, adding another label would increase the FDA's workload and perhaps compromise the integrity of both sets of information as a result. Furthermore, a second label may be overwhelming for packaging, particularly for compact food packets, and potentially either confuse consumers or risk neglecting vital information.

## PUBLIC-PRIVATE PARTNERSHIP

An efficient way to carry out this potentially complex data-processing is to engage in a public-private partnership, with the government setting up a private entity to administer the environmental information necessary to be placed on the labels. Such models have been implemented in other countries to great success. The Carbon Trust is a private corporation created by the British government to assist UK businesses in lowering their carbon footprint.<sup>58</sup> The organization worked with the Tesco supermarket chain to develop its food carbon labeling system.<sup>59</sup> The Canadian government has licensed a company called Terrachoice to award eco-labels.<sup>60</sup> While the government has primary responsibility for the overall program, Terrachoice is tasked with its day-to-day operation.<sup>61</sup> A similar relationship would be very useful in the United States as a good counterbalancing mechanism. Without a private partner to assume daily responsibilities, the government runs the risk of including too many competing interests in the program's development and not executing it as effectively as necessary. A private company, however, needs some degree of government oversight to ensure that the needs of the public health and environmental conservation remain its primary goals.

## AGENCY COORDINATION

The EPA, FDA, and possibly USDA should be the agencies charged with the primary responsibilities in any eco-labeling

program. There ought to be a proper balance struck between EPA's expertise over the environmental impacts of various foods with FDA's jurisdiction of food regulation. Consideration must also be given to USDA's oversight of agriculture. The FCC may also have a stake in the process and may be able to offer valuable insight from the guidelines protecting against erroneous environmental marketing. While it is important to ensure that the labels aren't bogged down in administrative quagmire, the program's credibility depends on having all appropriate experts involved.

## ECO-DIMENSIONS

Specific criteria would need to be laid out concerning the terms used in measuring a food product's environmental impact. A major drawback of any environmental labeling currently on the market is a lack of definitional meaning behind its terminology. The public does not have a concrete idea as to what a term really means in regards to a product's environmental impact. Therefore, there would need to be explicit definitions laid out, followed by a vigorous public education campaign to ensure that the public is using the information properly. To illustrate what such a scheme may look like, an example set of ten eco-dimensions are shown in Table 1.

**Table 1: Green Tag 10 Ecological Footprint Food Label**


Parameter	Description	Score (▼ ◆ ▲)
Water footprint	Water use for production	▼
Earth footprint	Cropland used for cultivation	◆
Ecological footprint	Risk of erosion & fertilizer, pesticide, and herbicide run-off	▲
Carbon footnote	Carbon emitted during production	▲
Imported energy	Imported energy used during production	▼
Biodiversity	Impact on biodiversity	▼
Sustainable	Consumption of non-renewable inputs	◆
Air pollution	Greenhouse gases emitted during production	◆
Chemical input	Chemicals, toxins, of heavy metals used for production	▼
Waste	Landfill waste created by packaging	▼

Key: ▼ = low; ◆ = medium; ▲ = high (low being smallest ecological footprint).

A new labeling system such as this would provide consumers with valuable information on the sustainability of each food product. Reporting the water footprint alone would be astonishing to many consumers who have no idea that it takes approximately 147 liters (thirty-seven gallons) of water to produce just one cup of coffee.<sup>62</sup>

To build on the example above, the Green Tag 10 Ecological Footprint label could be scored with a simple low, medium and high in relation to its impact on that particular category. A more sophisticated version might score on a ten point scale for each factor and provide a grand total out of 100. For example, under such a system, red meat might score 100, poultry 70, bread 40, vegetables 20, and algae 10. Consumers could then use these scores to make decisions based on credible information regarding the product's true environmental impact.

## CONCLUSION

Expanding food labeling to include eco-consumption dimensions will provide consumers with critical information enabling them to make better choices for their personal health and vitality, their families, and our collective environment. Moving forward on eco-labeling is important to consumers and supports the national interests of reducing consumer addiction to oil, carbon emissions, and pollution by highlighting product footprints on the label. Eco-labeling supports sustainable eating and lifestyles that green consumers want and need. Most importantly, eco-labeling will serve to educate consumers about personal and family well-being issues to enhance health, avoid obesity and diabetes, and reduce health care costs. How a food is produced and what resources were required to put it on the store shelf is directly related to these issues, and having easy, comprehensible access to this information through labels will allow the consumer to make sound decisions. All of these are vital interests that the federal government should seek to address by implementing a comprehensive, national eco-label system without delay. 

## Endnotes: The Case for Green Food Labels

- <sup>1</sup> Michael Pollan, *Farmer in Chief*, N.Y. TIMES MAGAZINE, Oct. 9, 2008, at MM62, available at <http://www.nytimes.com/2008/10/12/magazine/12policy-t.html?em> (last visited Oct. 20, 2008).
- <sup>2</sup> Alex William, *Buying Into the Green Movement*, N.Y. TIMES, July 1, 2007, at <http://www.nytimes.com/2007/07/01/fashion/01green.html?n> (last visited Oct. 1, 2008).
- <sup>3</sup> Matthew Connolly, *Thinking Globally, Acting Locally: Cleaning Up Global Aquaculture Through Eco-Labeling in the United States*, 26 PUB. LAND & RESOURCES L. REV. 121, 130-31 (2005).
- <sup>4</sup> Brett Coffee, *Environmental Marketing After Association of National Advertisers v. Lungren: Still Searching for an Improved Regulatory Framework*, 6 FORDHAM ENVTL. L. J. 297, 299 (1995).
- <sup>5</sup> Kate Harrison, *Organic Plus: Regulating Beyond the Current Organic Standards*, 25 PACE ENVTL. L. REV. 211, 222 (2008).
- <sup>6</sup> U.S. Food and Drug Administration, FDA Backgrounder: Milestones in U.S. Food and Drug Law History (Aug. 2005) <http://www.fda.gov/opacom/backgrounders/miles.html> (last visited Oct. 1, 2008) [hereinafter FDA Milestones Backgrounder].
- <sup>7</sup> U.S. Food and Drug Administration, FDA Backgrounder: The Food Label (May 1999) <http://cfsan.fda.gov/~dms/fdnewlab.html> (last visited Oct. 1, 2008) [hereinafter FDA Food Label Backgrounder].
- <sup>8</sup> CONSUMER REPORTS, *Food Labeling Poll* (July 11, 2007) at 4, available at [http://greenerchoices.org/pdf/Food%20Labeling%20Poll-final\\_rev.pdf](http://greenerchoices.org/pdf/Food%20Labeling%20Poll-final_rev.pdf) (last visited Nov. 3, 2008).
- <sup>9</sup> See Ass'n of Nat'l Advertisers, Inc. v. Lungren, 44 F.3d 726, 727 (9th Cir. 1994); see also Lauren C. Avallone, *Green Marketing: The Urgent Need for Federal Regulation*, 14 PENN. ST. ENVTL. L. REV. 685, 687 (2006).
- <sup>10</sup> Coffee, *supra* note 4, at 298-99.
- <sup>11</sup> David Granatstein, Center for Sustaining Agriculture and Natural Resources, Washington State University, *Emerging Ecolabels for Food Products 3-4* (unpublished manuscript), available at <http://organic.tfrec.wsu.edu/OrganicIFP/Marketing/bcecolabel.pdf>.
- <sup>12</sup> Avallone, *supra* note 9, at 694.
- <sup>13</sup> See Fair Trade Labeling Organizations International Producer Standards, [http://www.fairtrade.net/producer\\_standards.html](http://www.fairtrade.net/producer_standards.html) (last visited Nov. 11, 2008).

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# PREPARING FOR THE UNKNOWN: THE THREAT OF AGROTERRORISM

by Matthew Padilla\*

Beneath multi-hued trees lie expanses of arable land, where various crops are grown in order to feed our hungry society. In the United States many farms are so large that they resemble an industrial operation, with concentrations of crops and animals that increase the risk of large scale infection or disease. These characteristics make our agricultural landscape a unique target for bioterrorism.<sup>1</sup>

In October 2008, the Agroterrorism Assault on Chester County ("ATAC 08") coordinated efforts between federal and local officials in Pennsylvania to test "the region's response to an intentional dissemination of a foreign animal disease into the region's livestock population."<sup>2</sup> The exercise put agro-terrorism on the forefront of the security agenda and brought to light the problem of tracing and combating diseases which could be introduced into the food system.

A well-planned attack against agriculture would be detrimental to the United States because of its potential to disrupt a fundamental portion of the nation's economic system.<sup>3</sup> Farming and related economic sectors account for sixteen percent of the United States' workforce.<sup>4</sup> The farm sector, while contributing less than one percent of total Gross Domestic Product ("GDP"), indirectly has a much greater impact on the national economy as it contributes, via related economic sectors, to eleven percent of GDP.<sup>5</sup> And although only one percent of GDP comes directly from farming, 100% of the U.S. population is nourished and clothed by farming-related industries originating in the United States and abroad.

Some scholars cite General Sherman's attack on the American south's agricultural system during the Civil War as an example of how greatly an attack on foodstuffs may impact a population.<sup>6</sup> There are countless examples of attacks on agriculture throughout history, from Rome's salting of Carthage, to Japan's World War II Unit 731 in Manchuria, which conducted numerous biological tests, including many on human subjects.<sup>7</sup> The United States' use of Agent Orange during the Vietnam War, while not directed at farmland, did damage "some crops."<sup>8</sup> The Soviet Union is also alleged to have used glanders, a disease which causes death in horses and mules, during their 1980s war in Afghanistan.<sup>9</sup> Furthermore, multiple nations have programs that could be used to disrupt agriculture.<sup>10</sup>

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The likelihood of a full-scale attack by another nation against the United States is small. The possibility of a terrorist attack on the United States, using asymmetric tactics targeting agriculture, is greater and could have a substantial and detrimental psychological impact on the country.<sup>11</sup> Recent food scares, which were not terrorist-related, were caused by jalapeños and tomatoes (infected with salmonella) in summer 2008. The FDA was forced into an expensive investigation to determine the origin of the infected tomatoes and jalapeños. The scare caused many restaurants and grocers to stop selling the produce, and affected both suspect and non-suspect farms alike, while sickening and frightening consumers.<sup>12</sup>

Several contemporary examples of agroterrorism have been documented overseas. The Arab Revolutionary Council used mercury to poison oranges in Israel in 1978, causing orange exports to decline significantly.<sup>13</sup> In 1997 Israeli settlers used pesticides to spray Palestinian grapevines, causing the loss of seventeen thousand metric tons of produce.<sup>14</sup> In 1952, a Kenyan insurgent group, the Mau Mau, used the African milk bush to poison and kill thirty-three head of cattle.<sup>15</sup>

Terrorist attacks are not limited to foreign and non-state actors. For example, the Rajneeshee Cult poisoned Oregon salad bars in 1984 with salmonella.<sup>16</sup> In addition, the largest terrorist attacks conducted in the United States prior to 9/11 were perpetrated by fringe right-wing domestic groups.<sup>17</sup> In fact, the Ku Klux Klan has reportedly resorted to agroterror in the past, in an effort to intimidate minority farmers.<sup>18</sup> An area of concern today is the possibility of increased right-wing violence through agroterror. The Southern Poverty Law Center has reported increased rhetoric from right-wing racist groups who believe that an Obama presidency would be good for them because it could “drive millions to their cause.”<sup>19</sup>

Amplified racist sentiments, coupled with violence, may present a daunting challenge for law enforcement authorities because of the potential for a non-organized amateur terrorist attack. Mere “curiosity and fascination” may lead resurgent members of right wing groups to acquire nuclear, chemical, or biological weapons for multiple uses including agroterrorism.<sup>20</sup> Furthermore, extremists of all varieties—whether or not they are affiliated with an organized group—pose a significant problem, and according to the FBI, have represented “the most difficult international terrorist challenge to the law enforcement and intelligence communities.”<sup>21</sup> An amateur terrorist could use simple technologies to spread fear among the masses, attacking relatively unprotected areas like agricultural products.<sup>22</sup>

If farm products are to be protected, both federal and local governments will have to continue exercises such as ATAC 08. There is no way to ensure that food will be completely protected. However, preparing localities and strengthening pertinent legislation will help authorities deal with such an exigency, and could help prevent a panic among the populace.<sup>23</sup> Agriculture Secretary Ed Schafer, realizing the problem, has stated that the “USDA has to think of how we are vulnerable to terrorists and strengthen protective measures against terrorism.”<sup>24</sup> In addition,

diversifying the food supply, by strengthening local farms, can help offset the vulnerability and impact of an attack on a large farm. Acknowledgement of the vulnerability is a good step, and measures such as the ATAC 08 exercise is a sound second step, but it will take vigilant action at all levels to ensure that the food supply remains safe.



## Endnotes:

<sup>1</sup> JIM MONKE, AGROTERRORISM: THREATS AND PREPAREDNESS 1-2 (Congressional Research Service Report for Congress No. RL32521, 2004), available at <http://www.fas.org/sgp/crs/terror/RL32521.pdf> (last visited Nov. 1, 2008) (listing the characteristics that make agriculture a unique subset of bioterrorism, such as the geographical distribution of agriculture and livestock that is “frequently concentrated in confined locations”).

<sup>2</sup> Penn Veterinary Medicine, Penn Vet Hosts FBI Agroterrorism Exercise at New Bolton Center (Oct. 17, 2008), <http://www.vet.upenn.edu/PennVet/News/PennVetIntheNews/tabid/286/Default.aspx> (follow hyperlink to title of article) (last visited Nov. 13, 2008).

<sup>3</sup> MONKE, *supra* note 1, at 5-6.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> See Barry S. Zellen, *Preventing Armageddon II: Confronting the Specter of Agriterror*, STRATEGIC INSIGHTS, Dec. 2004, at 1-2, available at <http://www.ccc.nps.navy.mil/si/2004/dec/zellenDec04.pdf> (last visited Oct. 22, 2008).

<sup>7</sup> See RICHARD A. FALKENRATH, ROBERT D. NEWMAN, & BRADLEY A. THAYER, AMERICA’S ACHILLES’ HEEL 76 (Teresa J. Lawson ed., MIT Press 2001) (1998) [hereinafter FALKENRATH, ET. AL.] (outlining the history of Japanese biological programs from 1932-45; “Unit 732 studied diseases including anthrax, glanders, and plague by infecting prisoners.” Furthermore, Japan conducted small scale operations by preparing and distributing “chocolates filled with anthrax spores to youngsters. On another occasion 3,000 Chinese prisoners of war were given a “holiday treat” of dumplings injected with typhoid or paratyphoid...”); see also MONKE, *supra* note 1, at 12 (stating in a “Brief History of Agricultural Bioweapons” that “[d]uring the Vietnam War, the U.S. used agent orange to destroy foliage, affecting some crops”).

<sup>8</sup> See MONKE, *supra* note 1, at 12.

<sup>9</sup> *Id.* at 11.

<sup>10</sup> See Joseph P. Dudley & Michael H. Woodford, *Bioweapons, Biodiversity, and Ecocide: Potential Effects of Biological Weapons on Biological Diversity*, BIOSCIENCE, July, 1 2002, at 585.

<sup>11</sup> See generally Jason Pate & Gavin Cameron, *Covert Biological Weapons Attacks Against Agricultural Targets: Assessing the Impact against U.S. Agriculture*, at 5-7 (BCSIA Discussion Paper 2001-9, John F. Kennedy School of Government, Harvard University) (stating that there are a variety of costs that may arise from agroterrorism; economic, political, direct and indirect, and “[s]ome of these costs apply to any act of terrorism: the loss of confidence and credibility stemming from a government’s inability to protect the country”).

<sup>12</sup> Karen Grigsby Bates, *Salmonella Scare Hurts California Tomato Growers*, NATIONAL PUBLIC RADIO, July 9, 2008, available at <http://www.npr.org/templates/story/story.php?storyId=92371196> (last visited Nov. 4, 2008).

<sup>13</sup> MONKE, *supra* note 1, at 12.

<sup>14</sup> *Id.* at 12.

<sup>15</sup> *Id.* at 12.

<sup>16</sup> *Id.* at 12 (discussing the Cult’s attempt to influence an election).

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## ENDNOTES: THE CASE FOR GREEN FOOD LABELS *continued from page 55*

<sup>14</sup> See Coffee, *supra* note 4, at 298.

<sup>15</sup> Avallone, *supra* note 9, at 694.

<sup>16</sup> *Id.*

<sup>17</sup> Coffee, *supra* note 4, at 298-99.

<sup>18</sup> *Id.*

<sup>19</sup> Harrison, *supra* note 5, at 216-17.

<sup>20</sup> *Id.* at 215-16.

<sup>21</sup> *Id.* at 216.

<sup>22</sup> *Id.* at 217-18.

<sup>23</sup> *Id.* at 224-25.

<sup>24</sup> *Id.* at 221-23.

<sup>25</sup> Press Release, Union of Concerned Scientists, *New USDA Grass-fed Rules will Benefit Consumers and the Environment* (Oct. 16, 2007), [http://www.ucsusa.org/news/press\\_release/rules.html](http://www.ucsusa.org/news/press_release/rules.html) (last visited Nov. 14, 2008).

<sup>26</sup> Mandatory Country of Origin Labeling of Muscle Cuts of Beef (Including Veal), Lamb, Chicken, Goat, and Pork; Ground Beef, Ground Lamb, Ground Chicken, Ground Goat, and Ground Pork, 73 Fed. Reg. 50,701, 50,703 (Aug. 28, 2008) (to be codified at 9 C.F.R. pts. 317, 318).

<sup>27</sup> Avallone, *supra* note 9, at 688.

<sup>28</sup> *Id.*

<sup>29</sup> *Id.* at 686, 689.

<sup>30</sup> *Id.* at 692.

<sup>31</sup> Coffee, *supra* note 4, at 302.

<sup>32</sup> See *id.* at 306.

<sup>33</sup> *Id.* at 338.

<sup>34</sup> *Id.*

<sup>35</sup> Avallone, *supra* note 9, at 695.

<sup>36</sup> *Id.*

<sup>37</sup> Granatstein, *supra* note 11, at 1-3.

<sup>38</sup> Judy Finch, *Tesco Labels Will Show Products' Carbon Footprints*, THE GUARDIAN (London), Apr. 16, 2008, UK News 6, available at <http://www.guardian.co.uk/environment/2008/apr/16/carbonfootprints.tesco>.

<sup>39</sup> *Id.*

<sup>40</sup> Justin McCurry, *Japan to Launch Carbon Footprint Labelling Scheme*, THE GUARDIAN (London) (Aug. 20, 2008), <http://www.guardian.co.uk/environment/2008/aug/20/carbonfootprints.carbonemissions>

<sup>41</sup> Granatstein, *supra* note 11, at 3-4.

<sup>42</sup> See FDA Milestones Backgrounder, *supra* note 6.

<sup>43</sup> *Id.*

<sup>44</sup> FDA Food Label Backgrounder, *supra* note 7.

<sup>45</sup> FDA Milestones Backgrounder, *supra* note 6.

<sup>46</sup> American Heart Association, Nutrition Labeling, <http://www.americanheart.org/presenter.jhtml?identifier=4631> (last visited on Oct. 1, 2008).

<sup>47</sup> *Id.*

<sup>48</sup> FDA Food Label Backgrounder, *supra* note 7.

<sup>49</sup> *Id.*

<sup>50</sup> Nutritional Health Alliance v. Shalala, 144 F.3d 220, 223 (2d Cir. 1998).

<sup>51</sup> *Id.* at 225.

<sup>52</sup> Ass'n of Nat'l Advertisers v. Lungren, 44 F.3d 726, 727, 727 (9th Cir. 1994).

<sup>53</sup> *Id.* at 728.

<sup>54</sup> See Central Hudson Gas & Elec. Corp. v. Public Serv. Comm'n, 447 U.S. 557 (1980).

<sup>55</sup> Nutritional Health Alliance, 144 F.3d at 225, n. 10; Lungren, 44 F.3d at 729.

<sup>56</sup> Nutritional Health Alliance, 144 F.3d at 228; Lungren, 44 F.3d at 736-37.

<sup>57</sup> FDA Food Label Backgrounder, *supra* note 7.

<sup>58</sup> See generally, Carbon Trust, <http://www.carbontrust.co.uk/default.ct> (last visited Nov. 16, 2008).

<sup>59</sup> Food, Nutrition & Science, Carbon Footprint Food Labels, <http://www.foodnutritionscience.com/index.cfm/do/monsanto.article/articleId/91.cfm> (last visited Oct. 15, 2008).

<sup>60</sup> Connolly, *supra* note 3, at 136-37.

<sup>61</sup> *Id.* at 136.

<sup>62</sup> Water Footprint Network, Water Footprint Product Gallery: Coffee, <http://www.waterfootprint.org/?page=files/productgallery&product=coffee> (last visited November 16, 2008).

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